Nufarm Americas Inc.

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Date Issued: 1/10/03
Supersedes: New
Product Code: 3851-RIV
MSDS Number: 385

MATERIAL SAFETY DATA SHEET:

Riverdale® Tahoe™ 4E Herbicide

1. INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	Common Name	OSHA PEL	ACGIH TLV
Triclopyr ((3,5,6-trichloro-2-pyridiny)-oxy) acetic acid, butoxy ethyl ester	64700-56-7	61.6%	Tryclopyr-butotyl	N/A*	N/A
Othert Ingredients, Total, Including: Kerosene* Proprietary surfactants	*8008-20-6	38.4%	N/A	10mg/m3	10mg/m3
	Total	100.0%	* 2 mg/m³ (AE), Skin DAS IH Guide		

2. HEALTH DATA

PRIMARY ROUTE OF ENTRY: **Dermal/Eye:** Yes **Oral:** Yes **Inhalation**: No

SYMPTOMS OF OVEREXPOSURE: Nonspecific: muscle weakness, lethargy, loss of appetite, abdominal pains, headache, or shortness of breath.

ACUTE HEALTH EFFECTS

Inhalation: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Kerosene may cause central nervous system effects.

Eyes: May cause slight temporary eye irritation. Corneal injury is unlikely.

Skin: Prolonged or repeated contact ma cause skin irritation. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. With the dilute mix, no allergic skin reaction is expected. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin contact may result in absorption of harmful amounts.

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

TOXICOLOGICAL DATA

Acute Oral LD50: 1581 mg/ kg for male (Rat), 1338 mg/ kg for female (Rat).
Acute Dermal LD50: >2000 mg/ kg (Rabbits), >5000 mg/kg (Rat).
Acute Inhalation LC50: N/A

Eye Irritation: N/A
Dermal Irritation: N/A
Dermal Sensitization: Is not a sensitizer

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: Skin exposure may aggravate existing skin conditions. Exposure to mist may aggravate existing respiratory conditions.

CHRONIC HEALTH EFFECTS:

Agency	Listing	Carcinogen
NTP	IARC	OSHA
N/A	N/A	N/A

Reproductive Effects: Triclopyr, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Cancer Information: Triclopyr did not cause cancer in laboratory animals. In a lifetime animal dermal carcinogenicity study, an increased incidence of skin tumors was observed when kerosene was applied at doses that also produced skin irritation. This response was similar to that produced in skin by other types of chronic chemical/physical irritation. No increase in tumors was observed when non-irritation dilutions of kerosene were applied at equivalent doses, indicating that kerosene is unlikely to cause skin cancer in the absence of long-term continued skin irritation. In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling, exposures should not pose a carcinogenic risk to man.
Teratology (Birth Defects): For triclopyr, birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.
Mutagenicity: For triclopyr, in-vitro and animal mutagenicity studies were negative.

3. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

EYE CONTACT: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1 - 2 minutes and continue flushing for several minutes. If affects occur, consult a physician, preferably an ophthalmologist.

INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

SKIN CONTACT: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: Do not induce vomiting. Call a physician and/or transport to an emergency facility immediately.

NOTE TO PHYSICIAN: The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

4. FIRE FIGHTING MEASURES

FLASH POINT (F): 147°F

FLASH POINT METHOD USED: Tag Closed Cup

EXTINGUISHING MEDIA: Use CO^2 or dry chemical for small fires and water fog or foam for large fires. Use water spray to cool closed containers.

COMBUSTION PRODUCTS: May include, but are not limited to: hydrogen chloride and nitrogen oxides.

SPECIAL FIRE FIGHTING PROCEDURES: May produce toxic and noxious fumes under extreme fire conditions. Use positive pressure self-contained breathing apparatus and full protective clothing. Any water used to extinguish at the fire should be contained by diking to prevent contamination of the public water system.

FIRE & EXPLOSION HAZARDS: Fire & Explosion Hazards: Combustible. Toxic, irritating vapors may be produced if product is involved in fire.
See Section 13, REGULATORY INFORMATION, for NFPA ratings.

5. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:

Wear the suggested safety equipment when cleaning large spills (section 7). Surround with impervious material such as dirt to prevent run-off. Absorb product with an inert absorbent such as clay granules, sand or sawdust. Contain all affected material in a closed, marked container for proper disposal. Treat contaminated area with detergent and water. For large spills, dike the area and contact Dow AgroSciences at 800-992-5994.

6. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Keep out of reach of children. Harmful is swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin and clothing. Avoid breathing mists and vapors. Always use original container to store pesticides in a secured warehouse or storage building. Store above 28°F or agitate before use. Do not store near seeds, fertilizers, insecticides or fungicides. Containers should be opened in well ventilated areas. Do not contaminate water, food or feed by storage or disposal. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not use or store near heat or open flame. Do not cut or weld container.

WORK HYGIENIC PRACTICE:

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove protective equipment after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION:	Wear a NIOSH/MSHA approved air-purifying respirator when exposed to mist, or to atmospheric concentrations above the Exposure Guidelines.
VENTILATION:	Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
PROTECTIVE GLOVES:	Chemical-resistant gloves such as butyl rubber ›14 mils, or natural rubber ›14 mils, or neoprene rubber ›14 mils, or nitrile rubber ›14 mils.
EYE PROTECTION:	Protective eyewear
OTHER PROTECTIVE EQUIPMENT:	Long sleeved shirt, long pants, socks and shoes are required.

8. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT (F):	>302°F (150°C) initial
VAPOR PRESSURE:	0.1 mm @ 37.8°C (kerosene)
VAPOR DENSITY:	>1
SOLUBILITY IN WATER:	Emulsifies
SPECIFIC GRAVITY:	1.08
APPEARANCE:	Amber liquid
ODOR:	Kerosene-like

9. STABILITY AND REACTIVITY

STABILITY:	Combustible
CONDITIONS TO AVOID:	Avoid sources in ignition if temperature is near or above flash point.
INCOMPATIBILITY:	Avoid acid, base and oxidizing materials.
HAZARDOUS BYPRODUCTS:	Nitrogen oxides, hydrogen chloride, and phosgene may result under fire conditions
HAZARDOUS POLYMERIZATION:	Not known to occur.

10. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

ECOTOXICITY:

This product is toxic to aquatic organisms.

MOVEMENT & PARTITIONING:

Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Log octanol/water partition coefficient (log Pow) is 4.09. Log air/water partition coefficient (log Kaw) is -4.0

DEGRADATION & PERSISTENCE:

Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

11. DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL:

Pesticide wastes toxic. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate groundwater. If product cannot be disposed of by use according to the label, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Triple rinse (or equivalent) adding rinsate to spray tank. Then offer for recycling, or puncture and dispose of in a sanitary landfill. Plastic containers are also disposable by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

12. TRANSPORTATION INFORMATION

DOT REGULATED CONTAINER SIZE:	All container sizes >119 gallons are DOT regulated
HAZARD CLASS:	3
UN NUMBER:	NA 1993
PACKING GROUP:	III
GUIDE NUMBER:	128
PROPER SHIPPING NAME:	Combustible Liquid, N.O.S., (Contains Kerosene)

13. REGULATORY INFORMATION

SARA TITLE III; Section 311/312:

An immediate and delayed health hazard. A fire hazard.

REPORTABLE QUANTITY (RQ):

N/A

SARA TITLE III; SECTION 313-This product contains the following substances subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

None

HMIS INFORMATION	
HEALTH:	2
FLAMMABILITY:	2
REACTIVITY:	1
PROTECTIVE:	H

NFPA INFORMATION	
TOXICITY:	2
FIRE:	2
REACTIVITY:	1
SPECIAL:	N

The information given herein is to the best of our knowledge true and accurate. No warranty, however, expressed or implied, is made.